





International Federation of Shipmasters' Associations (IFSMA)

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Readers are reminded that the opinions expressed in	

the IFSMA Newsletter are those of the various authors and providers of news and are not necessarily in accord with IFSMA policy.

Secretary General's Message

As we come to the end of a very turbulent year for all our mariners whether from fear of attack by rebels, rogue nations or criminalisation from uncaring nations with unjust justice systems, lets us hope that the coming year brings a better future for all of us around the world, but particularly in Ukraine and the Middle East.

This last month (December) has seen things become a bit quieter offshore in the Red Sea and I am pleased to say that IFSMA has been invited to attend a seminar in Yemen to discuss the Red Sea/Indian Ocean security situation in the middle of January. I will be attending online and will let you know issues of interest that come from this important gathering of the minds.



My inbox for December has been relatively quiet for this time of year and I hope that this will continue to be the case.

As I celebrate the coming of the New Year, I will raise my glass to you and your families wherever you are and thank you for what you do to keep the world's trade flowing.

Finally, I hope that some of you were able to spend some time at home with families and friends over the festive period and I hope that those of you at sea are keeping safe.

Fair winds and following seas to you all.

Jim Scorer Secretary General

From the News Editor

The perils of lost containers

From September work to identify a vessel responsible for pharmaceutical bottles washing ashore continued along the South African east coast from Gqeberha through to nearby north eastern towns on the Indian Ocean coastline. This activity was actively investigated in September, according to the South African Maritime Safety Authority (SAMSA).

For identification, analysis and safe disposal of the pharmaceutical products SAMSA worked through an Incident Management Systems (IMS) committee involving among others, the Department of Forestry, Fisheries and Environment, South African Police Service (SAPS), Eastern Cape Disaster Management and the South African Health Regulatory Authority (SAHPRA).

Two hundred boxes lost

Confirmation came as reports were received from several areas along South Africa's Sunshine Coast of medicinal products being cited and collected in large quantities for more than a week after several cargo vessels on passage in this part of the Indian Ocean, reportedly lost collectively close to 200 containers in about eight weeks from July 2024.

One of these contained pharmaceutical products eventually collected in various towns and beaches thereabouts.



Unidentified pharma products picked up along the Eastern Cape coastline in September 2024.

According to SAMSA, the cargo vessels with losses included *Benjamin Franklin*, *CMA CGM Belem*, *Maersk Stepnica*, *Rio Grande Express* and *MSC Antonia*.

In a statement from Pretoria during the clean-up SAMSA said in addition to tracking down the specific vessel on which the consignment of pharmaceutical products might have fallen from, it was also closely monitoring the coastline in collaboration with local authorities to track any further containers or goods that might wash ashore.

Its spokesman said at the time: 'SAMSA is aware of the container that washed ashore on the East Coast near Port St Johns last week. In addition, SAMSA has been informed of pharmaceutical bottles containing pills that have been washing ashore in the Port Alfred, Kenton, Cannon Rocks, and Boknes areas since Monday, 9 September 2024.

'These incidents highlight the risks posed by severe weather conditions and the challenges of responding to coastal shipping emergencies. SAMSA has been actively involved in response efforts to ensure minimal environmental impact.

'The loss of containers at sea poses potential risks to navigation and the environment, and efforts are underway to monitor and address any hazards that may arise. SAMSA is currently working to identify the vessel responsible for the pharmaceutical bottles washing ashore.'

Crucially, said SAMSA: 'The owners of the vessels are fully cooperating with SAMSA and other relevant authorities and have committed to undertaking cleanup operations along the coastline should any contamination or further cargo loss occur.'

Meanwhile SAMSA reiterated a call upon vessels at sea and the public to report any sightings of the lost containers to the relevant authorities ... with the position, container number, and colour of the containers observed.

The South African Maritime Safety Authority (SAMSA) initiated the coordination of the cleanup and recovery of shipping containers, flotsam, associated pollutants, and products washed ashore along the southeast coastline of South Africa between the Wild Coast and Mossel Bay in September.

Illustration: SAMSA ©

The IMO Digest

A summary of some of the news received with grateful thanks from the excellent IMO Media service in recent weeks.

Illustrations per <u>www.imo.org</u> ©

IMO Secretary-General's new year message

Priorities for 2025

Key items on the IMO 2025 agenda

In a video message, Secretary-General Dominguez said:

'We start 2025 focusing on three main topics, as we were last year.

'The first one, seafarers, the second one, security around the globe, and the third one, decarbonization. When it comes to seafarers, we need to enhance the safety and security of the key personnel on board ships. We also need to focus on increasing the support that we provide to them, not just on decarbonization, but also when it comes to reducing the criminalization of seafarers; then diversity.

'We have made progress, particularly when it comes to gender in the maritime sector, but the reality is that there is more to come. I will continue to be firm on my commitment and my policy of not participating and engaging in panels where there is no female representation.

'This is a big year for IMO, and I remain positive that Member States and stakeholders will find common ground and adopt the technical and economic measures - that will allow the sector to meet the objectives set up in the 2023 GHG strategy, and decarbonizing the sector by or around 2050 - this year. We are also focusing on the sustainability of the oceans. For IMO, the theme [for World Maritime Day 2025] is: Our ocean, Our obligation, Our opportunity.

'Join me in shaping a successful and memorable year for IMO.'

To see the video-message readers are invited to watch the video by the link here: https://tinyurl.com/4dt7fdcy

Boosting African trade

Enhancing port digitalization

IMO has joined States of the African Alliance for Electronic Commerce (AACE)¹ to support work on *The Role of Single Windows and Digitalization in Boosting African Trade*. This was achieved at a workshop in Casablanca on 4 December.

Participants learnt about the 2022 amendments to IMO's FAL Convention², which now directs the electronic exchange of mandatory data in ports for the completion of formalities. Since 1 January this year (2024) all IMO Member States have been required to use a centralized digital platform or Maritime Single Window³ to collect and exchange information with vessels when they dock at ports.

The workshop boosted States' ability to implement an MSW, which aims to significantly reduce time and costs associated with port procedures and thereby enhance the efficiency of shipping worldwide.



This workshop was organized by the AACE in partnership with the Moroccan Single Window, Portnet SA.

¹ Members of AAEC are: Burkina Faso, Cameroon, Djibouti, Cote d'Ivoire, Gabon, Mauritius, Kenya, Libya, Morocco, Madagascar, Mali, Mozambique, Nigeria, Republic of Congo, Senegal and the West African Economic and Monetary Union (WAEMU) Commission (see: <u>https://www.uemoa.int/en</u>).

- ² <u>https://tinyurl.com/hacen4tc</u>
- ³ <u>https://tinyurl.com/yznckvja</u>

Maritime security

Indian Ocean and Gulf of Aden States coordinated action

States around the western Indian Ocean and Gulf of Aden have reiterated their commitment to working together to address common maritime security threats in the region.

The Signatory States to the Djibouti Code of Conduct (DCoC)¹ and its Jeddah Amendment concerning the security of the western Indian Ocean and Gulf of Aden met from 28 to 30 November in Dar Es Salaam at the Seventh High-level Meeting on the implementation of the Djibouti Code of Conduct/Jeddah Amendment. The meeting brought together high-level stakeholders to discuss how to continue to work together to protect the region from piracy, armed robbery against ships and other illicit maritime activities.

Delegates at the meeting decided to establish a working group on operational cooperation and coordination at sea. The resolution establishing the Working Group recognized that the successful implementation of the DCoC and its Jeddah Amendment (JA) needs a whole-of-government approach, making full use of all the competences, skills and capabilities of national authorities, both civilian and military. Agencies working together and sharing capabilities act as a force multiplier, increasing effective results while reducing costs to signatory States' taxpayers.

Participants also recognized the potential of national, regional and international naval forces to assist maritime law enforcement agencies and regulatory bodies to carry out their duties. This will require close cooperation, coordination and communication between navies, law enforcement and civilian authorities and the Regional Coordination Operations Centre; and between navies themselves at the national, regional and international levels. It will also require consistency and compliance with national legislation and international law.

Vessels of Interest (VOI) database

The participants agreed to establish a regionally owned, shared vessels of interest (VOI) database, primarily to assist in countering illicit activities in the maritime domain.

The meeting was opened by IMO Secretary-General Arsenio Dominguez, who drew attention to the need for all parties to work in cooperation, to develop meaningful action plans, to implement those action plans and to be able to demonstrate concrete success in order to secure further support in the future.

This High-Level Meeting was convened jointly by IMO with the United Republic of Tanzania and supported by the United Nations Institute for Training and Research (UNITAR). The meeting was chaired by Dr Lufunyo S Hussein (United Republic of Tanzania) and co-chaired by Mr Metse Ralephenya (Republic of South Africa and Chair of DCoC/JA).

Also attending were participants from seventeen DCoC countries², as well as implementing partners from twenty States and organizations including:

- CRIMARIO II.
- European Union.
- European Union Naval Force (EU NAVFOR) OP ATALANTA.
- European Union Capacity Building Mission in Somalia (EUCAP Somalia),
- Indian Ocean Commission (IOC).
- INTERPOL.
- INTERPORTPOLICE.
- Institute for Security Studies (ISS).
- Regional Coordination of Operations Centre (RCOC),
- Regional Maritime Information Fusion Centre (RMIFC).
- United Kingdom Maritime Trade Organization (UKMTO).
- United Nations Office on Drugs and Crime (UNODC).
- SKYLIGHT.

DCoC/JA National Focal Points meeting

Signatory States of the Djibouti Code of Conduct convened a meeting of the DCoC/JA National Focal Points on 29 November.

Participants raised concerns about the growing threats in the Red Sea, Gulf of Aden, and western Indian Ocean, and agreed to highlight and keep these areas of concern in focus while making efforts to find regional solutions to mitigate them. They highlighted the need to expedite the operationalization of the Regional Information Sharing Network (ISN) to enhance awareness of threats and boost response capabilities.

Friends of the DCoC Meeting

In its parallel meeting, the Friends of the DCOC – which includes organizations and States that have shown demonstrable capabilities in support of the work of the DCOC(JA) – proposed improvement to the DCOC Capacity Building Matrix, to make it a more effective tool for matching regional States' needs with development partners' assistance programmes.



The Friends of the DCOC also considered how to enhance information sharing, capability development, capacity building, and operational coordination.

¹ https://dcoc.org/

² Representatives from the following participating States: Bahrain, Comoros, Djibouti, Ethiopia, Jordan, Kenya, Madagascar, Maldives, Mauritius, Mozambique, Kingdom of Saudi Arabia, Seychelles, Somalia, Republic of South Africa, Sudan, United Republic of Tanzania, and Yemen.

*Representatives from partnering nations: Denmark, France, India, Netherlands, United Kingdom, United States of America.

Egypt, Cleaner Seas

IMO supports cleaner seas and better air quality

A national workshop in Alexandria held on 26 and 27 November has helped lay the groundwork for Egypt to accede to and implement MARPOL Annex VI, including regulations aimed at cutting air pollution from ships in the Mediterranean.

A set of international regulations

Annex VI to the International Convention for the Prevention of Pollution from Ships (MARPOL Annex VI)¹, along with its related Guidelines, is a set a of international regulations that establish Emission Control Areas (ECAs)². These are certain areas in which extra stringent air pollution controls are applied to ships, covering sulphur oxide (SOx) and nitrogen oxide (NOx) emissions, as well as particulate matter.

NB 01JAN 2025

A Mediterranean Emission Control Area for sulphur oxide emissions (Med SOx ECA)* will come into effect on 1 May 2025, covering all waters bounded by the coasts of Europe, Africa and Asia.

Broads representation

More than forty Egyptian officials joined the workshop, including representatives of the country's shipping regulators and national authorities in charge of marine environmental issues. They were familiarized with the requirements for air pollution prevention and promotion of energy efficiency under MARPOL Annex VI, including stringent sulphur limits that apply in the Med SOX ECA.



Participants were briefed on the benefits and barriers to accession and implementation, as well as the technical and operational implications for Egypt.

Discussions highlighted the importance of collective action in the region to address shipping emissions and ensure compliance with international standards.

Delegates had the opportunity to exchange best practices, including lessons learned from other Emission Control Areas³ established by IMO, including the Baltic Sea and North Sea areas.

IMO and Italian governmental financing

The workshop was organized by the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)⁴ and co-financed through IMO's Integrated Technical Cooperation Programme (ITCP) and the Italian Ministry for Environment and Energy Security, through the Mediterranean Trust Fund (MTF).

***NB** From 1 May 2025, ships operating in the Med SOx ECA are required to comply with a limit for sulphur content in fuel oil that is a fifth of the legal limit outside this area (0.10 per cent mass by mass (m/m), compared with 0.50 per cent m/m allowed outside the Med SOx ECA).

- ¹ <u>https://tinyurl.com/2bstcwsj</u>
- ² <u>https://tinyurl.com/46u8jscr</u>
- ³ <u>https://tinyurl.com/2p6zhfrk</u>
- ⁴ <u>https://www.rempec.org/en</u>

Madagascar, casualty investigation

Casualty investigation and reporting

On 9 December it was reported that Malagasy officials had completed comprehensive training on marine casualty investigations – a crucial element in ensuring maritime safety and cleaner seas.

States' obligations

Under provisions of IMO instruments, each flag State has an obligation to investigate every very serious marine casualty (those that entail the total loss of the ship or a death or severe damage to the environment) and others, as defined by the relevant conventions, involving its ships and to report its findings to IMO using the Global Integrated Information System (GISIS)¹ platform.

Enhancing safety

These reports help to determine whether changes to current regulations are needed, as well as any remedial actions that should be taken to enhance the safety of seafarers and passengers and the protection of the marine environment.

A national workshop was held in Antananarivo, Madagascar from 2 to 6 December aimed to bolster the country's casualty investigation capacity and increase the rate of reporting.

Broad range of topics

Thirty-one officials, including thirteen women, representing the Ministry of transport and Meteorology (MTM) and the Agence Portuaire, Maritime et Fluviale (APMF) of Madagascar took part in the training, which covered the following topics:

The role of the marine casualty investigator

- Obligations of the flag State.
- Mandatory standards.
- Identification of risks.
- Human element.
- Analysis and reporting.

Member State's audit

The workshop also addressed findings and observations from the member State's audit, including those outlined in the corrective action plan.



Under the IMO Member State Audit Scheme, Member States (IMSAS)² are regularly audited and provided with a comprehensive and objective assessment of how effectively they are implementing mandatory IMO instruments covered by the Scheme.

IMO's ITCP

The training was delivered through IMO's Integrated Technical Cooperation Programme (ITCP)³ in close collaboration with the Agence Portuaire, Maritime et Fluviale (APMF) of Madagascar.

- ¹ Log in is needed to access <u>https://tinyurl.com/4t4tcujh</u>
- ² <u>https://tinyurl.com/4bawe4kj</u>

³ https://tinyurl.com/5n8acu9w

MENA

Certification of seafarers

Assessment and examination training

It was reported on 9 December that maritime educators and trainers in the Middle East and North Africa (MENA) region have gained essential skills and knowledge in seafarers' assessment, examination and certification. This followed an IMO familiarization training course delivered in Manama, Bahrain from 24 to 28 November.

IMO Model Courses 3.12

Training is based on IMO's Model Course 3.12 on Assessment Examination and Certification of Seafarers Training (ASECT) for Administrators, Trainers and Assessors.

This model course is useful for trainers and assessors who are directly responsible for seafarers' education, training, and certification worldwide. The course helps cultivate competent, appropriately trained, and qualified seafarers who can deliver safe, secure, and environmentally sound operations both on board and ashore.

Aspects considered

In line with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention)¹, IMO Model Course 3.12 covers aspects such as:

- International provisions for training, assessment, examination and certification of masters, officers and ratings.
- Selection of assessment methodologies.
- Organization of assessments.
- Issue and control of certificates.

Broad representation

Twenty participants from nine countries in the region (Bahrain, Egypt, Iraq, Jordan, Libya, Morocco, Oman, Saudi Arabia, and Tunisia) attended the training course, including representatives from maritime academies, officials from the maritime administration, and training instructors responsible for implementing the STCW Convention.



Updating training programmes

The regional training course assisted Parties to the STCW Convention from the MENA region in updating their training programmes for seafarers and promoting the effective implementation of the STCW Convention in their respective countries.

IMO's ITCP

This training was delivered through the IMO's ITCP and supported and hosted by the Ministry of Transportation and Telecommunications, Bahrain.

Unique contribution

The Kingdom of Bahrain highlighted the importance of their seafarers' training institutions and the opportunity to pay tribute to seafarers from the MENA region for their unique contribution to society in facilitating maritime trade.

¹<u>https://tinyurl.com/y754d62v</u>

IMO Maritime Safety Committee, 109th session

(MSC 109)

The Maritime Safety Committee met for its 109th session at IMO HQ in London (in-person with hybrid participation) from 2 to 6 December 2024.

The meeting was chaired by Mrs Mayte Medina of the United States, supported by Vice-Chair, Captain Theofilos Mozas of Greece.

Readers will be interested in the following topics discussed:

Attacks against seafarers and international shipping

The Committee heard various statements delivered by Member States about the ongoing attacks on international shipping in the Red Sea area and the Black Sea area.

The Committee expressed concern over the safety and welfare of seafarers, freedom of navigation, threats to the marine environment and stability of the global supply chain resulting from the attacks by Houthis on commercial ships in the Red Sea and Gulf of Aden.

The Committee reiterated the call for the immediate release of the MV *Galaxy Leader* and its 25 seafarers which have remained captive since its hijacking in November 2023, marking a year of imprisonment of innocent seafarers.

The Committee expressed gratitude to the European Union for the support provided through Operation ASPIDES, as well as all Member States providing assets to the region.

The Committee commended the IMO Secretary-General's strong commitment and efforts, including his recent visit to the countries in the region, to reestablish safety and security in the Red Sea and the immediate release of the MV Galaxy Leader. The Committee also took note of statements related to the Black Sea area.

Roadmap revised for the development of a Code for Maritime Autonomous Surface Ships (MASS)

The Committee continued its work to develop a Code to regulate autonomous ships, with re-establishing the WG on MASS. The Committee noted the progress at the WG, in particular it finalized chapters 7 (Risk Assessment), 12 (Connectivity), which was relocated to new chapter 17bis, and 18 (Search and Rescue) of the draft MASS Code.

Given the remaining work to be done, the Committee agreed to a revised road map for developing the MASS Code, subject to further revision when necessary:

- May 2026 finalize and adopt non-mandatory MASS Code;
- December 2026 develop a framework for an Experience-building phase (EBP) post adoption of the non-mandatory MASS Code;
- 2028 commence development of the mandatory MASS Code, based on the non-mandatory Code and result from the EBP and review conducted by the relevant sub-committees, and consider amendments to SOLAS (new chapter) for the Code's adoption;
- By 1 July 2030 adoption of the mandatory Code, for entry into force on 1 Jan 2032.

Cyber risk management

The Committee advanced its work to identify next steps to enhance maritime cybersecurity, following the approval by MSC 108 of the revised Guidelines on Maritime Cyber Risk Management (MSC-FAL.1/ Circ.3/Rev.2)

The Committee agreed on the need to further develop cybersecurity standards for ships and port facilities, with the possibility of establishing a working group at MSC 110, pending submissions under this agenda item.



The Committee invited Member States and international organizations to submit proposals for consideration on the next steps to enhance maritime cybersecurity; and extended the target completion of the output to 2026.

Piracy and armed robbery against ships - updates

The Committee received an update on developments related to piracy and armed robbery against ships. This includes reports on acts of piracy and armed robbery against ships for the first six months of 2024, and recent developments related to regional initiatives such as the Djibouti Code of Conduct/Jeddah Amendment and Yaoundé Code of Conduct.

According to information received on IMO's GISIS platform, 72 incidents of piracy and armed robbery against ships were reported to IMO as having occurred or been attempted in January to June 2024. For the same period in 2023, 90 incidents were

reported. This constitutes a decrease of approximately 20% at the global level compared to the same period in 2023.

The areas most affected by acts of piracy and armed robbery against ships in January to June 2024 were the Straits of Malacca and Singapore area (37), Indian Ocean (13), West Africa (10), Arabian Sea (7), followed by the South China Sea (4) and South America (Atlantic) (1).

Readers are invited to see all IMO piracy reports here: <u>https://tinyurl.com/yw94zudw</u>

Mauritius: Enhancing port security planning

Maritime and port authorities in Mauritius have boosted their capacity to draw up and implement effective port facility security plans, following an IMO workshop held in Port Louis from 9 to 13 December.

Measures and procedures

Port facility security plans outline specific security measures and procedures to protect ships, cargo and people against threats to maritime safety, including terrorism, smuggling and unauthorised access.



This train-the-trainer workshop brought together 25 senior personnel from the Mauritian Maritime Administration and Port Authority, in charge of the implementation of the port facility security plans. Here were assembled port facility security officers, training officers, port security staff and relevant port facility managers, who received training on the requirements for Port Facility Security Officers (PFSOs) and Designated Authority (DA) officials.

SOLAS and ISPS Code

Participants gained the knowledge and skills required to perform their duties in accordance with relevant provisions of the International Convention for the Safety of Life at Sea (SOLAS) chapter IX-2 and the International Ship and Port Facility Security (ISPS) Code¹, as well as to train others with similar responsibilities. The workshop was organised by IMO in collaboration with the Shipping Division of the Ministry of Agro-Industry, Food Security, Blue Economy and Fisheries of Mauritius, and implemented under the EU-funded Port Security project, se footnote².

¹ <u>https://tinyurl.com/266u8c9x</u>

² https://tinyurl.com/2p8bk47n

Comoros: Boosting maritime security

Multi-agency collaboration

Twenty-six officials, including representatives from the Ministry of Transport, Port Authority (SCP), Maritime Authority (ANAM), Coastguard, Customs, Gendarmerie, and Police and Intelligence Service, took part in a national maritime security training programme held in Moroni, Comoros from 9 to 12 December.

Whole of government approach

Training focused on promoting a whole-of-government approach to addressing national maritime security risks and strategies, through an initial tabletop exercise and a National Maritime Security Committee workshop.



During the tabletop exercise, participants analysed their respective roles and course of action in various security scenarios, such as the entry of a ship in a port, arrival of a ship with drugs, hijacking of a ship in transit at port, sabotage of a port facility and dealing with stowaways.

Developing a National Maritime Security Committee structure

This was followed by a workshop focused on developing a National Maritime Security Committee (NMSC) structure for Comoros. Once established, such a cross-government committee would bring together all relevant stakeholders to coordinate maritime security initiatives and actions. The NMSC would be responsible for developing a national maritime risk register to identify and prioritise security gaps, and a national maritime security strategy to address these gaps and outline long term goals.

EU-funded

The workshop was part of the activities funded by the European Union under the Port Security Project for more of which readers are invited to see here: <u>https://tinyurl.com/2p8bk47n</u>

Morocco

Supporting cleaner seas and better air quality

A national workshop in Rabat, Morocco held on 10 & 11 December helped lay the groundwork for Morocco to accede to and implement MARPOL Annex VI, including regulations aimed at cutting air pollution from ships in the Mediterranean.

Emission Control Areas

Annex VI to the International Convention for the Prevention of Pollution from Ships (MARPOL Annex VI), along with its related Guidelines, is a set of international regulations that establish Emission Control Areas (ECAs). These are certain areas in which extra stringent air pollution controls are applied to ships, covering sulphur oxide (SOx) and nitrogen oxide (NOx) emissions, as well as particulate matter.



A Mediterranean Emission Control Area for sulphur oxide emissions (Med SOx ECA)¹ will come into effect on 1 May 2025, covering all waters bounded by the coasts of Europe, Africa and Asia. From this date, ships operating in the Med SOx ECA are required to comply with a limit for sulphur content in fuel oil that is a fifth of the legal limit outside this area (0.10% mass by mass (m/m), compared with 0.50 % m/m allowed outside the Med SOx ECA).

Broad representation

Almost fifty Moroccan officials joined the workshop, including representatives of the country's shipping regulators and national authorities in charge of marine environmental issues. They were familiarized with the requirements for air pollution prevention and promotion of energy efficiency under MARPOL Annex VI, including stringent sulphur limits that apply in the Med SOx ECA.

Benefits highlighted

Participants were briefed on the benefits and barriers to accession and implementation, as well as the technical and operational benefits for Morocco. Discussions highlighted the importance of collective action in the region to address shipping emissions and ensuring compliance with international standards. Delegates had the opportunity to exchange best practices, including lessons learned from other Emission Control Areas² established by IMO, including the Baltic Sea and North Sea areas.



IMO's ITCP

The workshop was organized by the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) and co-financed through IMO's Integrated Technical Cooperation Programme (ITCP) and the Mediterranean Trust Fund (MTF).

A similar national workshop³ was held on 26 and 27 November in Alexandria, Egypt.

- https://tinyurl.com/ynw8m32u
- ² https://tinyurl.com/2p6zhfrk
- ³ https://tinyurl.com/vm3xsvxc

Chile: Strengthening STCW compliance

Maritime authorities and training institutions in Chile have enhanced their understanding of the requirements needed to meet global maritime training standards set by IMO.

Regional workshop

A regional workshop hosted by the Chilean Maritime Authority and delivered by IMO in Valparaíso from 9-13 December focused on implementing Regulations I/7 and I/8 of the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW Convention).

For more on the STCW Convention see here: <u>https://tinyurl.com/y754d62v</u>

The STCW Convention defines the minimum qualifications for maritime professionals worldwide, supporting safe and efficient shipping by ensuring seafarers and shore-based personnel are well-trained and competent.



Regulations I/7 and I/8 of the Convention require Parties to submit detailed information to the IMO on their policies and processes for authorizing, accrediting, and overseeing seafarer training, examinations, and certifications to ensure compliance with global standards.

Obligations

In particular, the workshop focused on the obligation of a Party to submit an initial communication of information, conduct an independent evaluation, and prepare a report for submission to the IMO Secretary-General.

Costa Rica represented

The event brought together 23 participants from maritime authorities and training centres in Chile, as well as two representatives from Costa Rica. Costa Rica participated under a technical cooperation initiative to share experiences and gain insights for their own maritime governance frameworks.

Nauru: FAL and SAR Conventions

Paving the way to accession

On 16 December it was reported that Nauru had concluded national consultations on its potential accession to two international conventions promoting safe and effective global shipping.

Held from 9 to 13 December the consultations, facilitated by the Pacific Community (SPC), with funding support from the IMO, brought together a range of stakeholders to discuss Nauru's readiness and potential next steps for acceding to the following Conventions:

 International Convention on Facilitation of Maritime Traffic (FAL Convention), which promotes efficient maritime traffic by standardizing procedures, reducing administrative burdens, and minimizing delays caused by complex customs processes at ports.

 International Convention on Maritime Search and Rescue (SAR Convention), which provides an international framework for the coordination and conduct of maritime search and rescue (SAR) operations to save lives at sea.

Broad representation

Representatives from public authorities such as Customs, Quarantine, Immigration, Nauru Maritime and Port Authority (NMPA), Nauru Fisheries and Maritime Resources Authority (NFMRA), Nauru Emergency Services (NES), Nauru Polic Force (NPF), Office of the Legislative Drafters and the Department of Foreign Affairs and Trade (DFAT) took part in the consultations, along with private sector stakeholders including shipping agents.



The meeting was a critical step in fostering a unified approach to the country's maritime governance, while underscoring IMO's support for Nauru to accede to these Conventions.

Key outcomes:

(1) FAL Convention – Next steps towards accession

Participants committed to the following next steps for Nauru's possible accession to the FAL Convention:

- Recognition of the need for collaboration among public authorities and vessel operators to establish an effective maritime facilitation system.
- Acknowledgement of NMPA's role under the Ports and Navigation Act 2019 as the lead agency for implementing IMO Conventions in Nauru.
- Establishment of a National Facilitation Committee (NFC), chaired by NMPA, to oversee FAL implementation.
- Development of a Cabinet submission seeking approval to accede to the FAL Convention, contingent upon agencies' readiness for implementation (NMPA to take the lead, in consultation with the Department of Justice and Border Control).

(2) SAR Convention: Strengthening search and rescue capabilities

Although Nauru has an established Search and Rescue Region (SRR) under IMO auspices, it has yet to become a party to the SAR Convention. The meeting agreed on the following next steps:

- Recognition of the current roles of agencies involved in responding to SAR incidents, especially those involving domestic small crafts.
- Formation of a National SAR Committee (NSC) to lead implementation of SAR initiatives and develop a National SAR Manual and Standard Operating Procedures (SOPs).
- Designation of NES 111 as the national SAR contact number, with the Harbour Master leading maritime SAR responses.
- Deferral of SAR accession until national agencies are prepared for implementation.

Commitment

The consultations highlighted the country's commitment to improving facilitation and search and rescue operations.

Stakeholders agreed to continue collaboration to ensure readiness for accession to these conventions, in close collaboration with IMO and SPC.

The bora wind

Spectacular patterns on the Adriatic

This image, acquired by one of the Copernicus Sentinel-2 satellite, showcases a striking phenomenon caused by the bora wind over the Adriatic Sea between Croatia's Dalmatian coast and the island of Pag.



Credit: European Union, Copernicus Sentinel-2 imagery ©.

On the day the image was acquired, the bora – a strong katabatic wind blowing from the land – reached speeds of more than 100 km/h. As it descended through the mountainous terrain along the Croatian coast, the wind accelerated, creating short, choppy waves that broke into distinctive white foam. The

parallel streaks visible on the sea surface reflected the interaction between wind and water, forming linear patterns aligned with the direction of the wind. The relatively shallow and narrow waters of the Adriatic intensified the effect, causing the waves to foam more easily.

Bora winds can impact navigation. The Copernicus Marine Service* supports the optimisation of navigation routes by providing high-resolution ocean data, including wind, wave, and current forecasts.

About the Copernicus Marine Service

The data provided by the Sentinel-1 satellites are integrated into several <u>Copernicus Marine products</u>, providing valuable insights for a range of marine applications. These cover a range of themes, including sea ice, oil spills, and wind and wave patterns:

• Sea Ice Monitoring

integrated into numerical Sentinel-1 data, products, are useful for monitoring sea ice conditions in the polar regions. These products help to monitor the extent, thickness, and movement of sea ice, knowledge that is crucial for a range of applications, including safe navigation and climate studies. Data on sea ice is especially significant for icebreaker operations, shipping routes, and understanding climate change effects on Arctic regions. For example, the Copernicus Marine Service's <u>Sea Ice Thematic Assembly</u> Centre (SEA ICE TAC) systematically leverages Sentinel-1 radar data to generate maps of sea ice thickness for safe passage, distinguishing between thinner, more navigable ice and the dangerous, much thicker ice. Additionally, Sentinel-1 data are integrated into models that map the position and predict the movement of icebergs.

Oil Spill Detection

Oil spills are a major environmental concern, especially in marine environments. Sentinel-1 data can be used to detect changes in the ocean surface which signal the presence of oil by comparing radar images taken before and after a spill. This capability is used in the <u>IMPRESSIVE</u> (*Integrated Marine Pollution Risk assessment and Emergency management Support Service In ports and coastal enVironmEnts*) project, part of the Horizon2020 initiative, which integrates Sentinel-1 data with Copernicus Marine products to track marine pollution events in EU ports.

• Wind and Wave Patterns

Sentinel-1 radar imagery also supports oceanographic studies by providing data on wind and wave conditions. This is particularly useful for weather forecasting, optimising the fuel consumption of ships, developing marine renewable energy power generation installations, and understanding ocean circulation patterns. The radar's ability to capture ocean surface features

helps to create accurate models of wave heights and wind speeds, such as our <u>newly released</u> <u>multi-year high-resolution wind products</u>, which provide multi-year wind products for European coastal waters at a spatial resolution of about 1 km.

A Case Study: BALFI for Baltic Sea Ice Management

Another notable example of how Sentinel-1 data is used is the Baltic Sea Landfast Ice (BALFI) service, developed by the Finnish Meteorological Institute. BALFI monitors the extent and thickness of landfast ice in the Baltic Sea. Landfast ice remains attached to the shore and does not move in response to the currents and winds, providing safe passage for activities such as ice fishing and transport in the region. However, it also poses risks, as unpredictable ice break-ups can cause accidents. By integrating Sentinel-1 data, BALFI provides accurate and up-to-date information on ice conditions, allowing local authorities to plan and operate safely. The service is also used by tourism operators to help them plan activities and avoid dangerous ice conditions.

*https://marine.copernicus.eu/

Swedish accident investigation

Car and passenger ferry Eckerö

On 13 October 2023, the car and passenger ferry *Eckerö* (Swedish flag, 121m loa, built 1979, BV Class) was in Grisslehamn, Sweden, and loaded cars and passengers for a trip to Åland. Both crew and passengers were on the vehicle deck. In order to accommodate all the cars, a so-called hoistable car deck had to be lowered to be able to load cars on two floors. In connection with the lowering of the hoistable car deck, one of its platforms fell uncontrollably onto the deck below.

A car with a trailer was crushed and two people suffered minor injuries.

At the time, the automation for operating the hoistable car decks did not work and they instead had to be lowered manually.

The Able Seaman who was to perform the task had not done this for a long time and accidentally pulled in the locking wedges to the platform before the cables were stretched.

This resulted in the platform falling freely for a bit. As the cables slowed the platform up, one of the sheaves to the lifting cables was torn loose. The spacer plates that were supposed to hold together the two steel plates between which the line sheave was mounted had defective welds. The welds broke from the load that occurred. There was then no longer anything to hold the cables in place and the platform then fell freely.

Causes of the accident

The cause of the accident was that there were insufficient safety functions when manually operating the hoistable car decks.

Contributing causes of the accident were that the risks of manual manoeuvring of the hoistable car decks had not been identified. This has led to insufficient training of the crew, the instructions for manoeuvring not being updated and that people were allowed to stay under the hoistable car decks during manoeuvring.



Figur 1. ECKERÖ på väg in till Grisslehamn.

At system level, a casual factor was that hoistable car deck platforms are not covered by sufficient requirements regarding construction, installation and use.

Inadequately performed repairs meant that the platform's hoisting arrangement did not hold up to the loads that occurred during the incident.

Safety Recommendations

Rederiaktiebolaget Eckerö is recommended to:

- Ensure that all hazardous operations are handled in the safety management system, and that training and instructions for such hazardous operations are developed and kept up to date.
- Complete the work of introducing a technical solution that ensures that the lockings on the hoistable car decks cannot be retracted before the lifting cables have been stretched.

Editorial note

This text is based on material kindly made available by the Swedish Accident Investigation Authority: <u>https://shk.se</u>

A dangerous trade

By Michael Grey, IFSMA Honorary Member

With everyone slowing down to save both the planet and fuel we should not be surprised that the expeditors among us are more anxious than ever to cut corners to make up for all those lost hours on passage. Some are undoubtedly sensible, such as becoming more expert at timing an arrival at an optimum hour, obviating the nonsense of wasting fuel, only to anchor until a berth becomes available. And if the port and its services, terminal, agents and all the other interested parties, are singing from the same song sheet, everyone gains.

It is a great theory, but does not always work out like that. Other practices, like penalising pilots for dawdling in the approaches, or demanding bulkers are emptied of ballast before bringing them in, are very much more questionable. And we are reminded of another doubtful practice, with two accounts of fatalities where seafarers were unlashing containers rather than leaving this task to the port professionals, who are better accustomed to such a hazardous task. The cases are featured in the most recent Nautical Institute Marine Accident Reporting Scheme and are both summaries from the excellent Singapore investigators reports, in which they point out the lessons that ought to be learned from these sad cases of crew members losing their lives undertaking tasks best left to others.

Both seafarers – one aboard a ship which had just docked and the other with the ship under way – became unbalanced wrestling with the long lashing rods and fell over the side. Too many seafarers have died over the years in this task, which of course saves time in port, earns them some extra money, but involves them in hazardous activities, which are, in many places, prohibited by the port's regulations. In one of these casualty investigations, it is pointed out that crew members who are unfamiliar with the work, such as cooks and stewards, are pressed into service to make up the numbers. And the truth is that on most container ships, there are just not enough members of the deck department to do this work, without pressing "all hands and the cook" into service.

In his book "Down to the sea in ships" – a fine account of contemporary voyaging on containerships, the writer Horatio Clare has a graphic portrayal of the grim business of unlashing containers in ice and sub-zero temperatures, aboard an inbound ship in the St. Lawrence River, after a trans-Atlantic voyage. They make good money, time is saved, but would it not be more civilised and safer all round, to save it for the shore-side lashing gangs? It also illustrates how minimally manned merchant ships are, when the crew have to be tasked to do extra work that is beyond their principal role, for no other reason than to save time and convenience and to make up the numbers.

Was anyone really surprised when the World Maritime University researchers, a couple of years ago, cast some serious doubts on the constructive way that the reporting of mandatory work and rest hours was being undertaken? There was a lot of pretend outrage at the time, but with the cutbacks in manning and the curious interpretation of safe manning regulations, it was difficult to see how "flogging the log" was not normal, in so many ships. The phrase "creative adjustment" was coined.

That was preliminary work by WMU, but last week Splash editor Sam Chambers reported on the

conclusion of a three years study by Bikram Bhatia, funded by the ITF Seafarers' Trust which amplified and confirmed the initial revelations. It is a substantial piece of research, with evidence from more than 6000 seafarers, 55 port state control authorities and scrutiny of 16,551 inspections. And it appears that 64% of seafarers "adjust" their work and rest hours' reports to keep the visiting inspectors convinced of their compliance with the MLC2006 requirements. Nearly half of those interviewed were instructed to make the necessary adjustments to demonstrate compliance, which suggested that the records of the PSCs themselves on this particular point were, to say the least, doubtful. And there is a connection here, between people plunging to their deaths doing jobs they really ought to leave to others, and the way that data is being smudged to show the industry in a better light than it really is. And if you are concerned with the reputation of the shipping industry, maybe all of this should give you pause for thought.

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Michael Grey is former editor of Lloyd's List.

Rule 10 - A reminder

Summary

The International Regulations for Preventing Collisions at Sea, 1972, as amended, (COLREG), govern the conduct of all vessels in and near Traffic Separation Schemes (TSS) which have been adopted by the IMO.

In the UK on 4 December the Maritime & Coastguard Agency (MCA) issued *Marine Guidance Note MGN 364 Amendment* 2. This document provides interpretation and guidance on the application of Rule 10 of the COLREG.

The text which follows draws attention of mariners to the mandatory reporting regime and the recommendations for navigating and other activities within the Dover Strait. It also provides a link to the MGN.

This amendment provides updates to the guidance given on navigation within the Dover Strait along with further clarification on elements of Rule 10 of COLREG.

Introduction / background

TSS adopted by the IMO are set out in the IMO publication *Ships' Routeing*, as amended, and various IMO COLREG Circulars. Additionally, they are identified in chart notes on Admiralty charts and in Admiralty Annual Notice to Mariners 17.

Rule 10 of the COLREG, governs the conduct of all vessels:

- i) Navigating within TSS which have been adopted by IMO, including the defined area of associated traffic lanes, separation zones, and Inshore Traffic Zones (ITZ)
- ii) Navigating near the defined TSS such that the vessel's navigation would interact with those navigating within and joining or leaving the TSS.

Under the principles of good seamanship, the guidance within this notice should also be seen as good practice for vessels navigating within non-IMO adopted TSS within United Kingdom (UK) waters.

The application of the guidance within this notice should applied as follows:

- (i) Sections 1 & 2 are applicable to all TSS
- ii) Section 3 is applicable to the TSS and routing measures within the Dover Straits
- iii) Sections 4 6, although written in relation to the Dover Straits, may also be appliable to other TSS.

In some TSS, special provisions may be included, governing their use by specified classes of vessels.

Relevant information is given on charts, or there may be a recommendation for chart users to consult Admiralty Sailing Directions for that area.

The Amendment

The link to MGN 364 Amendment 2 regarding Rule 10 will be found here: https://tinyurl.com/y25p4unz

Shell deep-water project

Bonga North, Nigeria

On 16 December it was announced from London that Shell Nigeria Exploration and Production Company Limited (SNEPCo), a subsidiary of Shell plc, had made a final investment decision (FID) on Bonga North, a deep-water project off the coast of Nigeria.

Bonga North will be a subsea adjunct to the Shelloperated Bonga Floating Production Storage and Offloading (FPSO) facility which Shell operates with a 55% interest.

The Bonga North project involves drilling, completing, and starting up sixteen wells (eight production and eight water injection wells), modifications to the existing Bonga Main FPSO and the installation of new subsea hardware tied back to the FPSO.

It is understood the project will sustain oil and gas production at the Bonga facility. Bonga North currently has an estimated recoverable resource volume of more than 300 million barrels of oil equivalent (boe) and will reach a peak production of 110,000 barrels of oil a day, with first oil anticipated by the end of the decade. In the words of Zoë Yujnovich, Shell's Integrated Gas and Upstream Director: '*This is another significant investment, which will help us to maintain stable liquids production from our advantaged Upstream portfolio.*'

It is additionally reported that SNEPCo (55%) operates the Bonga field in partnership with Esso Exploration and Production Nigeria Ltd. (20%), Nigerian Agip Exploration Ltd. (12.5%), and TotalEnergies Exploration and Production Nigeria Ltd. (12.5%), on behalf of the Nigerian National Petroleum Company Limited (NNPC).

Bonga is a deep-water development located in OML 118, at water depths exceeding 1,000 metres. Production at the Bonga FPSO began in 2005, with a capacity to produce 225,000 barrels of oil per day. The project produced its one-billionth barrel of crude oil in 2023.

The Bonga North development holds estimated recoverable resource volumes of more than 300 million barrels of oil equivalent (boe). These volumes are currently classified as 2P (proven and probable) under the Society of Petroleum Engineers' Petroleum Resources Management System.

Shell's Upstream business continues to set new benchmarks in performance through near-field opportunities like Bonga North, advancing technical expertise, strong partnerships, and a model built on simplification and replication.

Mayotte cyclone disaster

On 14 December, Cyclone Chido, a Category 4 storm, hit Mayotte, a French archipelago in the Indian Ocean near Madagascar.

With winds exceeding 220 km/h, Chido was the strongest storm to affect the islands in over 90 years, destroying buildings and key infrastructure, including roads and electrical grids, and impacting the ability of rescue crews to reach residents.



Illustration credit: European Union, Copernicus Emergency Management Service Data ©.

Authorities report that hundreds of casualties have likely resulted from the storm, while survivors face shortages of electricity, water, and aid.

Rescue teams have been dispatched from France and the nearby French territory of Reunion to support recovery operations in Mayotte.

Emergency management

The Copernicus Emergency Management Service (CEMS) has been activated (EMSR780) to provide detailed maps of the affected areas. This data visualisation, based on CEMS data, depicts the damaged and destroyed buildings and transportation infrastructure in the areas of interest.

More information is available on the CEMS website here: <u>https://tinyurl.com/yc43c5f9</u>

Dust, more dust

Saharan dust affects the Canary Islands, Spain

Following Storm Dorothea, the Spanish Canary Islands were affected by a haze brought on by strong winds on 17 December. These carried suspended dust from the Sahara Desert.



European air quality hourly forecast of additional indicative tracers.

Satellite image credit: European Union, Copernicus Sentinel-2 imagery ©.

This dense haze, known locally as *calima*, led to decreased air quality in several areas. The islands of Lanzarote and Fuerteventura were the hardest hit, with daily concentrations of particulate matter reaching levels higher than the World Health Organization's recommended limit. *Calima* can have significant impacts on air quality, visibility, and health.

Dust is visible hovering over Lanzarote and Fuerteventura in this Copernicus Sentinel-2 image acquired on 17 December.

The Copernicus Atmosphere Monitoring Service provides daily analyses and forecasts of worldwide long-range transport of atmospheric pollutants, which are useful for informed decision-making to help keep communities safer. More information is available here: <u>https://tinyurl.com/yc5pjhcm</u>

UK seafarer rights to be enshrined in law

Joint governmental announcement

Seafarers are to benefit from greater protections for welfare and working conditions thanks to new legal requirements that the UK government has now proposed. This was made clear in a statement issued by the Department for Transport (DfT) and the Maritime & Coastguard Agency (MCA) on 19 December.

Part of the government's landmark Employment Rights Bill – the biggest upgrade to rights at work in a generation – the new amendments have been tabled to pave the way for a legally binding Seafarers' Charter, it is understood.

The charter will allow ministers to set higher standards for seafarers' rights and further protect wages beyond UK waters for seafarers on services regularly calling at UK ports.

Protections include

Thanks to the amendments tabled, strengthened protections for seafarers include:

- Setting maximum periods of work at sea and minimum periods of rest.
- Robust requirements to manage seafarer fatigue.
- Reinforced training requirements for operators, such as familiarisation with the vessel, to support safety and skills.

Consultation proposed

It is understood that the Department for Transport will launch a consultation to gather views from industry and unions on how these new powers can best be implemented.

This effort marks a major milestone for the sector by cementing seafarer protections in law, addressing the concerns of safe roster patterns and seafarer fatigue to ensure the health and safety of workers.

Commitment

Delivering on the Plan for Change's commitment to raise living standards, these measures will prevent exploitation and undercutting of working conditions, enshrine seafarer protections in law as never before and set a firm course for the industry moving forward.

Comment

UK Government Transport Secretary, Heidi Alexander, commented: 'We promised to introduce a mandatory charter to improve working conditions and welfare for seafarers, and today we have delivered. Our hardworking seafarers keep the country safe and moving – and that's why it's only right that we protect them. This charter will signal a new dawn for welfare whilst at sea.'

Christophe Mathieu, CEO of Brittany Ferries, said: 'We stand right behind this move to strengthen protection for hard-working seafarers. Anyone who has ever worked on a ship understands the importance of good working conditions like regular rest periods. This will help boost crew well-being, creating a safer and more rewarding working environment for all.'

To quote Paul Nowak, General Secretary of TUC, who said: This charter is a really important step forward. For too long seafarers have been exposed to hyperexploitation and a lack of enforceable rights. By improving their pay and conditions, we can begin to give seafarers the same rights and protections as land-based workers. Unions stand ready to work with the government and today's announcement is another reminder of why the government's 'make work pay' agenda is so important. Everyone deserves to be treated fairly at work.'

Economic value

The maritime industry is vital to the UK economy, adding £18.7 billion of gross value added (GVA) in 2019. Reforming workplace conditions and investing in seafarers will bolster the maritime industry and help turbocharge economic growth across the UK.

This announcement comes just weeks after the Seafarer's Wages Act came into force, meaning that anyone who frequently works in UK waters now receives the equivalent of the national minimum wage.

Indian autonomous vessel project SWAYAT

It was reported from Mumbai at the end of December that the Indian Register of Shipping (IRS) and Cochin Shipyard Ltd (CSL) have entered into an umbrella agreement aimed at developing indigenous technologies and enhancing the capabilities of both organizations.

Cooperation agreement

As part of this initiative, IRS and CSL have signed a separate cooperation agreement for the development and certification of an autonomous vessel named *Swayat* which is being constructed at CSL as a fully indigenous pilot project.

Key technology partners include KPIT and other Indian manufacturers specializing in autonomous systems and components.

To IRS Guidelines

The vessel will be verified in accordance with IRS Guidelines on Autonomous and Remotely Operated Vessels, ensuring compliance with the highest standards. In addition, the cyber security aspects will

be addressed as per the IRS Guidelines on Maritime Cyber Safety.

Indigenously developed navigation and communication suite

It is understood that the project also includes the certification of an indigenously developed navigation and communication suite, which will be verified by IRS. Collaboration with leading academic and research institutions will play a key role in design and simulation studies for the vessel.



Mr T K Sahu, Joint MD of IRS stated: 'It is a matter of great pride for IRS to be part of this prestigious project with CSL and their industry partners. This initiative demonstrates India's indigenous capabilities in advanced technologies and aligns with the Government of India's Atmanirbhar Bharat mission. We believe the experience gained through this pilot project will further strengthen our processes for certifying vessels with advanced autonomy.'

USCG Icebreaker Healy returns home

High-latitude US deployment

On 13 December the USCG reported from *Seattle* that cutter *Healy* had returned the previous day to Seattle following a 73-day Arctic deployment supporting scientific research missions, search and rescue operations, and training exercises in the region.

Three-phase deployment

Crew aboard *Healy*, a 420-foot polar icebreaker, conducted three distinct phases throughout the cutter's 2024 Arctic Fall deployment.



The first phase was a collaboration between the US Coast Guard, the National Oceanographic and Atmospheric Administration (NOAA), the US National

Science Foundation (NSF), and the University of New Hampshire. The interagency science mission to the Chukchi and Beaufort Seas north of Alaska combined oceanographic buoy deployments with a coordinated mapping effort to survey uncharted waters and acquire depth data along a portion of the Alaskan Arctic Coast Port Access Route Study (AACPARS) corridor. The AACPARS corridor is a Coast Guardproposed preferred vessel route from Utqiaġvik, Alaska, to the demarcation point of the border between US and Canada.



During the second phase, Healy hosted ten postdoctoral researchers and junior faculty members from various institutions supporting the US NSF-funded Polar Early Career Scientist Training project, with contributions from NOAA and the Coast Guard. The at-sea training and research opportunities for the early career scientists included seafloor mapping, water and sediment collection, and other scientific sampling across various disciplines in the operational areas of the Chukchi and Beaufort Seas and within the marginal ice zone. The time underway provided the early career polar scientists and their mentors with hands-on experience at sea, equipping them with the knowledge and skills to plan, implement, and lead future interdisciplinary scientific expeditions on U.S. Arctic vessels.

During Healy's third phase, the ship conducted a lateseason transit of the western IMO's Bering Strait Routeing measure through Russian territorial seas, ensuring a free and open Arctic region. The crew conducted multi-mission operations throughout the Chukchi Sea, Bering Sea, and Gulf of Alaska and conducted training above the Arctic Circle to prepare future high-latitude polar operators. The training included helicopter operations and search-and-rescue exercises with Joint Rescue Coordination Center Juneau (JRCC Juneau) and Coast Guard Air Station Kodiak. The exercise enhanced readiness to respond to vessels in distress and facilitated valuable shipboard helicopter training for the cutter and aircrews. Healy also rendezvoused with the USCGC Bertholf north of the Aleutian Islands for a series of coordinated at-sea exercises.

SAR event

While sailing in southeast Alaska, *Healy* was one of several US Coast Guard and good Samaritan vessels who responded to the fishing vessel *Wind Walker*

search-and-rescue case, which took place near Couverden Point, Alaska.



Healy's crew made a port visit to Juneau, Alaska, where the crew hosted over 430 visitors aboard for tours of the cutter. The Coast Guard announced in July it will homeport a commercially procured icebreaker in Juneau.

CO's comment

Healy's Commanding Officer Captain Michele Schallip commented: '*Healy's* Arctic West Fall deployment demonstrates the agility and dedication of the crew.

'In addition to contributing to navigation safety and support of scientific research, our deployment exercised the broad array of Coast Guard missions we conduct in the Arctic.'

High-latitude US presence

USCG *Healy* is the Coast Guard's only icebreaker specifically designed to support Arctic research. It provides high-latitude US presence and scientific access to areas too challenging for most research vessels to reach.

ClassNK: Vehicle carrier fires

Guidance for safe evacuation of crew members

Introducing world's first notation for safe evacuation measures

It was announced on 17 December from Tokyo that ClassNK has released guidance to assist in the safe evacuation of crew members from vehicle carriers in the event of a cargo hold fire.

Additionally, the world's first notation, AMEVC(EV)*, has been established to indicate vessels equipped with additional measures to facilitate safe evacuation.

Evacuation challenges

Vehicle carriers often have accommodation areas and life-saving equipment, such as lifeboats and liferafts, positioned above cargo holds, with ventilation ducts for the holds located close to the accommodation spaces. As a result, flames and smoke from a cargo hold fire can affect these critical areas and evacuation routes, posing evacuation challenges and potentially compromising crew safety.



In collaboration with shipping companies and shipyards, ClassNK has compiled the risks and countermeasures for evacuation from vehicle carriers during fires in the Risk Assessment related to the Safe Escape from a Car Carrier. This covers various risks, including thermal effects, and suggests countermeasures such as spraying water on the decks, installing thermal insulation under lifeboats, and adding evacuation equipment to the forward mooring decks.

Guidelines issued

ClassNK has also set out requirements for granting notations to vessels equipped with additional evacuation measures tailored to each vessel's layout, and issued the *Guidelines for the Safe Transportation* of *Electric Vehicles (Edition 2.0)*.

These may be found with the link here: <u>https://tinyurl.com/3dwp37vj</u>

The first edition focused on the characteristics of EV fires and fire response measures such as detection and prevention of fire spread, along with notation requirements for vessels implementing these measures.

In the latest edition, new insights on evacuation have been added, making the guidelines more comprehensive. ClassNK is committed to contributing to the safe maritime transport of EVs through the establishment of appropriate standards and certification.

*Additional Measures for Escaping from Vehicle Carrier (Electric Vehicle)

Picture captions

The accommodation, lifesaving equipment, and evacuation routes affected by flames and smoke from the cargo hold.

Guidelines for the Safe Transportation of Electric Vehicles (Edition 2.0).

Canada: Revamping sealift operations

A critical lifeline for Kinngait and the Arctic

For many Canadians, a trip to the store or an online order can fulfil everyday needs in minutes. But imagine living somewhere where the arrival of a ship can define how you live for the next year. For the 1,400 residents of Kinngait, this is a reality.

Kinngait, Nunavut, is isolated by geography. There are no roads connecting Kinngait to the rest of Canada and travel is only possible by air or, depending on the season, by sea. This remote Arctic community depends on yearly sealifts by cargo ship of vital supplies for almost all requirements. Everything from groceries, to fuel and cars, must be imported. This also translates to very high costs.



But getting to Kinngait by cargo ship is not easy sailing and difficulties include severe winters, short summers, and Arctic storms. Surrounding waters are also icecovered for most of the year.

The 2024 sealifts were especially welcomed not only because they brought vital supplies, but also marked a significant step for Kinngait's future: the commissioning of the new, upgraded sealift beach with a new safety ramp.

Although Kinngait, formerly known as Cape Dorset, has grown significantly over the years, its sealift infrastructure had remained outdated. Before the

upgraded sealift beach and new safety ramp, offloading sealift supplies were limited to a narrow strip of land between the sea and a community road.



In the words of David Joanasie, a member of the Nunavut General Assembly: '*This year we saw the largest sealift in the history of Kinngait. The community now has a safer place that allows for more organized and faster offloading.*'

In addition, new signage in both Inuktitut and English will be put in place to enhance safety and accessibility.

David Akeeagok, Minister of Economic Development and Transportation for the Government of Nunavut, added: 'The sealift is not just about deliveries – it is about sustaining life in the Arctic. As communities grow, so must the infrastructure that supports them too. The sealift system is critical yet often overlooked.'

The positive effect of these improvements will be felt beyond Kinngait because it is also a key stop for vessels servicing other communities across Nunavut and Nunavik.

As Kinngait welcomed the two final sealifts in October, the community is already looking ahead. These upgrades promise more than operational efficiency; they are about securing a better future for Arctic residents. The challenging environment demands constant adaptation, and these infrastructure enhancements are a direct response to the growing needs of a resilient population.

Picture captions

A barge loaded with supplies arrives in Kinngait, Nunavut, set against snow-covered hills. This scene highlights the critical role of shipments in supporting the remote Arctic community.

Kinngait, Nunavut, before and after the construction of a new sea ramp. The October 2023 image highlights the uneven shoreline, while the September 2024 image reveals the completed ramp and improved access to the water. Aerial view of Kinngait's new sea ramp showing a large barge docked and holding hundreds of containers full of supplies.

Editorial note:

Text produced from material kindly made available by Transport Canada 16.12.24

ATSB safety recommendations:

To eliminate single point of failure following bulk carrier grounding

In a report of 20 December the Australian Transport Safety Bureau (ATSB) issued a number of safety recommendations after an electrical short circuit led to the grounding of a bulk carrier in the channel off Port Hedland, in Western Australia's Pilbara region.

On 9 April 2022, the Liberian-flagged capesize bulk carrier *Hagen Oldendorff* (built 2020, 299m loa, Classed LR) departed its berth with a harbour pilot on board and four tugs assisting for an outbound passage of Port Hedland's 40 km dredged channel.

Rudder angle indicator loss of power

During the transit, shortly after completing a turn, an electrical short circuit led to the loss of power to all of the ship's analogue rudder angle indicators.

Incorrectly believing the ship's steering had failed, the bridge team implemented the relevant emergency response procedures for a steering failure.



Illustration per ATSB Transport Safety Report MO-2022-007 Final – 20 December 2024 reproduced with thanks. ATSB ©.

Manoeuvring orders issued during the response resulted in an uncontrolled turn to port, and a collision with the side of the channel at about 6.1 knots.

The ship was returned to the centre of the channel, and taken out to anchorage, where inspection revealed it was taking on water in two of its doublebottom water ballast tanks, due to substantial damage which required extensive repairs.

Fortunately, no injuries or pollution were reported.

Comment

ATSB Chief Commissioner Angus Mitchell reflected: 'Port Hedland is the largest bulk export port in the

world, and a grounding in the channel could have significant outcomes not only for the environment and for the safety of those on board, but also for the Australian economy.

As such, significant research has gone into the appropriate safety measures and procedures for ship movements in and out of Port Hedland.

Mitchell added: 'In any best practice, safety-critical operation, single points of failure should be eliminated. In this instance an electrical short circuit led to the loss of power to all of the ship's analogue rudder angle indicators.'

The ATSB's final report notes *Hagen Oldendorff*'s rudder angle indicators were compliant with international regulations and classification society rules.

Mitchell: 'However, these applicable rules and regulations did not, and still do not, require the ship's rudder angle indicators be protected against a single point of failure, such as the tripping of the common circuit breaker, which in this case resulted in a loss of electrical power supply to all the analogue indicators.

'Additionally, the rules do not require installation of audible or visual alerts to notify the bridge team of a loss of power supply affecting the indicators.'

Safety recommendation made

In this regard the ATSB has issued a safety recommendation to *Hagen Oldendorff's* flag state administration, the Liberia Maritime Authority, as well as the ship's classification society, Lloyd's Register, and Australia's maritime regulator, the Australian Maritime Safety Authority, to address the risk associated with a single point of failure in electrical power supply for ship rudder angle indicators.

Mitchell further added: 'While some progress has been made towards resolving this safety issue, there is an absence of detailed proposals and a timeframe to resolve it.'

Tug procedure safety issue addressed

The ATSB's investigation also found the ship's pilot had cast off the port and starboard shoulder tugs early, inconsistent with the recommended practices of Port Hedland's escort towage strategy.

Mitchell again: 'Further, the investigation identified that best practice escort towage guidance was not integrated into the Port Hedland port user guidelines and procedures, or into the pilotage provider's safety management system.'

In response to the incident, the Pilbara Ports Authority updated its user guidelines and procedures to incorporate tug retention and utilisation practices, and guidance recommended in the port's escort towage strategy. Additionally, the pilotage provider, Port Hedland Pilots, advised the ATSB that its pilots now keep the forward two tugs fast, as recommended, for the relevant channel sections, unless prevented from doing so by weather or other factors.

Mitchell concluded with: '*Pilotage and towage are primary risk control measures in ensuring the safety of port operations.*

'Where demonstrated techniques and practices have been identified that increase the effectiveness of towage in preventing incidents, and in mitigating the consequences when they occur, it is imperative that they are appropriately documented, disseminated and implemented.'

The report

To read the 73-page report: *Grounding of Hagen Oldendorff, Port Hedland, Western Australia, on 9 April 2022* issued on 20 December 2024 readers are invited to see the link here: <u>https://tinyurl.com/</u> <u>559frwr8</u>

Developing the EU's secure communication satellites system

A multi-orbit constellation of about 300 satellites that will deliver resilient, secure and fast communications for EU governments, European companies and citizens will be put in orbit after two contracts were confirmed on 16 December in Brussels.

According to the European Space Agency (ESA) the IRIS2 constellation – which stands for Infrastructure for Resilience, Interconnectivity and Security by Satellite – will comprise hundreds of satellites in low Earth orbit and others in medium Earth orbit. Placing interlinked satellites into these different orbits will enable the constellation to communicate securely and quickly and remain constantly connected without needing thousands of satellites. An additional layer in low Earth orbit providing further services will also be developed.

Promoting European autonomy

Launched by European rockets. the IRIS2 constellation will promote European autonomy, resilience and competitiveness. It will ensure uninterrupted access to secure governmental services provide connectivity and high-end commercial services.

Copernicus and Galileo programmes

ESA informed that IRIS2 builds on ESA's ongoing delivery of constellations for the EU, including Copernicus, the world's largest Earth-observation programme, and Galileo, the world's most accurate civilian satellite-navigation system. As the third EU flagship space programme, IRIS2 will be a strategic asset for the EU in support of its sovereignty.

ESA is supporting the development of IRIS2 through a Partnership Project contract with an industrial

consortium called SpaceRISE selected by the European Commission.

A 12-year concession contract between the European Commission and SpaceRISE – which is led by European satellite operators SES, Eutelsat and Hispasat – was signed by Timo Pesonen, the European Commission's Director-General for Defence, Industry and Space, Adel Al-Saleh, Chief Executive Officer of SES, Eva Berneke, Chief Executive Officer of Eutelsat, and Miguel Ángel Pandura Panadero, Chief Executive Officer of Hispasat.

A second contract between ESA and the SpaceRISE consortium was signed by Laurent Jaffart, ESA Director for Connectivity and Secure Communications. The full consortium will include satellite manufacturers and other companies as well as small and medium-sized enterprises.

EU and private sector funding

The total cost for the full duration of the 12-year concession contract amounts to $\in 10.6$ billion. This will be funded by the EU for $\in 6$ billion, over three financial perspectives, by ESA for $\in 550$ million and by the private sector for over $\in 4$ billion.



Photo credit: ESA - S. Corvaja©

ESA has a key role in IRIS2, with the European Commission leveraging the Agency's decades-long track record of experience in developing and implementing space programmes in collaboration with Industry. The 12-year concession contract will see ESA monitoring development and validation activities performed by the industrial consortium. The first launch for IRIS2 is envisaged in 2029.

Comment

Timo Pesonen, the European Commission's Director-General for Defence, Industry and Space, said: 'The Commission has delivered on the Union's imperative need for an autonomous and secure connectivity capability. IRIS2 underpins our strategic autonomy and defence capacity, promotes our competitiveness, and energises public and private sectors cooperation.'

Josef Aschbacher, Director General of ESA, said: 'In an increasingly complex geopolitical world, ensuring resilient, secure and fast governmental communications is essential. ESA will play a crucial role in the technical implementation of the IRIS2 programme. 'ESA's excellence will foster innovation in the European space industry, boost European competitiveness, create jobs and attract talents to Europe. The Commission's trust in ESA to oversee the development of the constellation and its ground infrastructure speaks volumes of ESA's successful track record in the delivery of European flagship programmes. ESA is ready to deliver again, for Europe and its citizens.'

Adel Al-Saleh, Chief Executive of SES, said: "'are honoured to lead the SpaceRISE consortium to work with the European Commission and the European Space Agency on the IRIS2 project. IRIS2 is integral to Europe's space strategy and is already fostering enhanced collaboration and innovation between the industry and public sectors. By strategically coming together, we will be able to ensure architecture resiliency and security from day one of the system launch. With the EC as an anchor customer of the constellation, our investment in IRIS2 will see us augment our medium Earth orbit capabilities while executing our required rate of return, maintaining investment grade balance sheet metrics, and returning cash to our shareholders.'

Eva Berneke, Chief Executive Officer of Eutelsat, said: 'The IRIS2 programme is a landmark initiative that embodies Europe's commitment to digital sovereignty, resilience, and strategic autonomy. At Eutelsat, we are uniquely positioned to bring unparalleled expertise to this mission, leveraging our pioneering capabilities, including our cutting-edge low Earth orbit constellation.

'By combining this advanced infrastructure with the collective strengths of the SpaceRISE consortium, we will deliver a transformative communications backbone that addresses Europe's most critical connectivity needs of our governments, reinforces its leadership in space innovation, and bridges the digital divide for millions of citizens and businesses across the continent. This project is a testament to Eutelsat's vision of driving secure and sustainable connectivity for a resilient Europe.'

Miguel Ángel Panduro, Chief Executive Officer of Hispasat, said: 'The signing of IRIS2 is a historical milestone for European space. Hispasat was born out of public-private collaboration to provide government and commercial communications in geographical areas of interest to our country.

'We are therefore convinced that, through SpaceRISE, we will not only guarantee the secure communications of the Member States, but also contribute to generating a more innovative and competitive ecosystem at a time of special relevance for the European space industry.'

Picture caption

ESA's Galileo global navigation satellite system will support multiple applications in the field of maritime navigation. Galileo will be Europe's own global navigation satellite system, providing a highly accurate, guaranteed global positioning service under civilian control. It will be inter-operable with the Global Positioning System (GPS) and Russia's Global Navigation Satellite System (Glonass), the two other global satellite navigation systems.

The operational Galileo system will consist of 30 satellites (27 operational + 3 active spares), deployed in circular Medium Earth Orbit (MEO) at an altitude of 23,616 km altitude, over three orbital planes inclined at 56 to the equatorial plane.

What's for dinner?

By Michael Grey, IFSMA Honorary Member

It was very many years ago, at a Mission to Seafarers' conference, when I was commenting on substandard shipping (there was a lot of it about then) I made reference to some cheapskate operator I had heard about who provided his wretched crews with a tin of pilchards every second day as their sole sustenance. It got a laugh from the assembled delegates, but in the following coffee break I was somewhat deflated when a chaplain from some grim port in a deprived part of the world quietly pointed out that to many seafarers where he ministered, such would have been unimaginable luxury to people whose access to nutritious food was distinctly limited.

It made me consider lunch in a rather different light. I have thought of this kindly intervention off and on over the years, usually when reading about the detention by Port State Control of some awful ship when the crew was discovered to be living in squalor, with the food supplies infested, long out of date and affording little nutrition to people supposed to be working hard, long hours. In an earlier age, we would have just dismissed such accounts as "different ships – different long splices," or make some remark about "the poor always being with us." Well within my memory, there were North East coast tramp owners, which were notorious for their feeding rates of a few pence per day and half a bucket of water for both drinking and washing, if you were lucky.

You might suggest that things have changed a great deal in the last few decades, with so much more supervision by port regulators, the implementation of the Maritime Labour Convention 2006 and a whole host of regulatory changes that reflect the expectations of society in general. But rust buckets still stray into ports where their responsibilities are taken seriously and there are regular reminders that there remains a sizeable portion of the world fleet which operates at the bottom of the food chain.

The UK Maritime & Coastguard Agency is thinking about these matters in a current consultation on the latest amendments to MLC 2006, which have specific references to food provided aboard ship and the need for a "balanced diet", which could feature in future regulation. You might say that defining such a requirement might be difficult. I remember talking to the Chief Steward on a Channel ferry who said that his customers, mainly road hauliers, would not touch any form of food that had not been deep fried. His attempts to present them with fresh vegetables, fruit or fibre had been studiously ignored in favour of maximum grease and he had rather lost heart. The MCA, bless them, suggest that the proper diet for a healthy, 21st century seafarer should provide a mix of carbohydrates, protein, fat, fibre, vitamins and minerals and of course these things do matter a great deal for ongoing health.

In the accompanying notes it also references the Seafarers' Happiness Index, which has revealed concerns about cutbacks in food budgets and a diet that was "unhealthy, monotonous and of poor quality." Perhaps some things never change, which is why the regulators need to open the fridge door on their visits and specific regulation needs to take over from mere guidance. The consultation also includes important items on some of the lessons that were learned during the Covid-19 crisis, not least the importance of crew connectivity, and remaining in regular touch with friends and families through social media and messaging apps. There surely cannot be any argument about this, although making such essentials mandatory will give rise to the issue of who pays for such facilities. However, this must be less of an issue, as such connectivity has become infinitely cheaper and more easily available. But when considering these matters, the spirits of those old hard-nosed tramp owners come wafting back.

Another important matter for the amendments revolves around the vexed questions of financial accountability, which came to the fore during the pandemic when so many crews found themselves abandoned. The consultation document suggests that there should be a more robust system of clarifying exactly who is financially accountable for a vessel and how crew members can protect themselves from monetary loss in the event of the failure of an owner or recruitment and placement agency. Such information it suggests, should be readily accessible when a vessel is inspected. All of which would appear to be sensible, except that in this strange international industry, extraordinary efforts are sometimes made to conceal details of ownership and ultimate financial responsibility. Something of a sea change (if you will pardon the reference) may be required in the implementation of this item.

This is obviously the last item of 2024 and seemed more fitting than the usual annual review which will just make readers bored. Very best wishes for the coming year, regardless of all those black swans just over the horizon.

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Michael Grey is former editor of *Lloyd's List*.

Fall accident general cargo vessel mv Roerborg

Port of Oxelösund, Sweden

SHK investigation

On 15 October 2023 a fall accident occurred on the general cargo ship *Roerborg*. (Netherlands-flag; 1422 gt;169.75m loa; Class BV / LR). The vessel was berthed in the port of Oxelösund and was loading steel products. One crew member had just manoeuvred the gantry crane that was on board for the purpose of lifting the cargo hold hatches off and on.

The crew member began climbing down from the crane but lost their footing and fell down onto the quay. The crew member initially fell down onto a small platform on the lower part of the gantry crane, then over the platform railing and down over the railing that ran along the side of the vessel, before finally landing on the quay. The total height of the fall was just over eleven metres.



Figure 3. The picture shows the ladder and platform of the gantry crane. The red line marks the approximate route of the crew member's fall.

The crew member was seriously injured by the fall, but did not suffer permanent injuries. At the time of the accident the person was wearing several layers of clothing and a helmet with a chinstrap. The clothing and the personal protective equipment have probably mitigated the consequences.

Deficiencies in the fall protection arrangements

The investigation shows that there were deficiencies in the fall protection arrangements on the gantry crane. The upper ladder was equipped with a protective cage that seems to have worked as intended. However, the platform under the ladder was too small or did not have surrounding protection that was high enough to catch the falling crew member.

The various fall protection arrangements seem to have been designed to be used on a level surface. In fact, the crane ran on an elevated cargo hold coaming along the side of the vessel next to the open cargo hold, which meant that the fall protection arrangements became insufficient for the actual fall height.

Causes of the accident

The reason why a crew member could fall overboard was that the fall protection arrangements were designed in such a way that they did not provide sufficient protection.

The underlying reason why the fall protection arrangements did not provide sufficient protection was that the design of the fall protection did not take into account the actual conditions that prevailed where the gantry crane was used.

Safety recommendations

The measures taken by the shipping company after the accident are considered sufficient and SHK saw no need to issue any recommendations.

Report

The Swedish Accident Investigation Authority has investigated this fall accident involving *Roerborg* in the Port of Oxelösund, Södermanland county, on 15 October 2023 The report is available here: <u>https:// tinyurl.com/559z25wk</u>

About the Swedish Accident Investigation Authority

The Swedish Accident Investigation Authority (SHK) investigates accidents and incidents from a safety perspective regardless of whether they occurred on land, at sea or in the air.

The authority's accident investigations are intended to disseminate knowledge and provide a basis for actions by authorities, companies, organizations, and individuals that improve safety and reduce the risk of accidents. The activities should also contribute to people feeling secure and having trust in society's institutions and the confidence in transportation systems. The mission also includes assessing the efforts made by the rescue services in connection with an accident. However, the investigations should not assign blame or liability, whether criminally, civilly, or administratively.

Investigations by SHK aim to answer three questions:

- What happened?
- Why did it happen?
- How can a similar accident/incident be avoided in the future?

Further reports

Accident investigation reports are available on the Swedish Accident Investigation Authority's website here: <u>www.shk.se</u>

Malaysia, Malacca Strait

Modernisation of One Fathom Bank Light

Towards the end of November it was reported by Mediterráneo Señales Marítimas (MSM), in collaboration with M-NAV Solutions and HJS Maritime SDN BHD, that it had completed the modernisation and automation of the light source and ancillary equipment of One Fathom Bank Lighthouse in the Malacca Strait, off Peninsular Malaysia's west coast.

It is understood that this project integrates aids to navigation (AtoN) equipment specifically designed by MSM to enhance maritime safety in these waters.

A strategically located lighthouse

One Fathom Bank Lighthouse is an offshore aid to navigation located in the Strait of Malacca, a critical maritime corridor for global trade. The Strait is known for its shallow waters and sandbanks such as the One Fathom Bank itself. One Fathom Bank Lighthouse was constructed 500 metres off the original structure, which is now preserved as an historic landmark.

Features of the modern lighthouse

The new lighthouse, constructed on concrete piles, rises 43 metres above sea level and includes a concrete pier for service vessels. Its design features a spacious circular platform topped by a dome from which a cylindrical tower emerges, blending functionality with architectural aesthetics.

Technological Innovation: A Cutting-Edge Lighting System

In 2024, the lighthouse underwent a complete renovation of its lighting and automation systems, integrating state-of-the-art technology designed by MSM:

• MFR LED Light: A LED reflector light with a range of 24 NM, featuring a safety redundancy system and gearless, brushless electronic MRM160 rotation motor.

• MTF3000 Control Panel: Monitors the lighting and rotation system through a digital display that shows operational status and real-time alerts.





This waterway is one of the busiest shipping routes worldwide. Its name refers to the original depth of a fathom (six feet or 1.8 metres), underscoring the historical importance of this lighthouse in ensuring safe navigation through challenging bathymetric conditions and dense traffic.

An historic legacy

Marine marking at this position dates back to 1852 with the establishment of a lightship. In 1874, the first lighthouse was built using innovative screw-pile construction. By 1907, it was replaced with what is now known as the "old" One Fathom Bank Lighthouse, whose 27-metre height and with a suitable range met the demands of increasing traffic. In 1999, the "new" • MRAS Astronomical Clock: Controls the lighthouse's on/off cycles with triple night detection (two photodiodes and a GPS module), ensuring maximum precision.

• AIS Type 3: Transmits and receives identification and status information in real time, enabling remote monitoring and control of the lighthouse.

A pillar of maritime safety

Through this project, the One Fathom Bank Lighthouse has strengthened its position as a key aid to navigation asset, essential for ensuring safe passage in the Strait of Malacca, one of the world's maritime choke points.